Dynamics of Self-Regulation: How (Un)accomplished Goal Actions Affect Motivation

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Abstract

Two factors increase the motivation to adhere to a goal: goal commitment and lack of goal progress. When people ask about commitment, focusing on what they have accomplished (to-date) signals to them high commitment and increases motivation. Conversely, when commitment is certain and people ask about goal progress, focusing on what they have yet to accomplish (to-go) signals to them lack of progress and increases motivation. Accordingly, four studies show that emphasizing to-date information increases goal adherence when commitment is uncertain—that is, when participants study for a relatively unimportant exam, consume luxuries, fulfill a desire, and make first-time contributions to a charity. Conversely, emphasizing to-go information increases goal adherence when commitment is certain—that is, when participants study for an important exam, consume necessities, fulfill a need, and make repeated contributions to a charity.

People often encourage themselves to work on a goal by considering either what they have accomplished (a "to-date" frame) or what remains for them to do to attain the goal (a "to-go" frame). For example, students increase their motivation to study by assessing the amount of time and effort they have already invested in an academic task or by assessing the amount of time and effort required to complete the academic task. Similarly, athletes maintain their motivation to complete a long race by considering either the completed or the remaining distance to the finish line. In addition, social agents, organizations, and educators provide information about what has been accomplished to date versus what has yet to be accomplished to motivate others to act on shared, social goals. For example, fundraisers present information about either the amount of donations they have received thus far (i.e., seed money) or the amount that is missing to complete a charity campaign goal. Whereas emphasizing actions in to-date and to-go frames is common, this article examines how such variations in the emphasis affect motivation. For example, when does information about the amount of money donated thus far versus the amount required to complete a campaign goal increase the likelihood of making a pledge?

To address this question, we adopt a goal framework (Aarts & Dijksterhuis, 2000; Ferguson & Bargh, 2004; Förster, Liberman, & Higgins, 2005; Gollwitzer & Moskowitz, 1996; Kruglanski et al., 2002; Locke & Latham, 2002). In particular, we build on research on dynamics of self-regulation, which distinguishes between self-regulation that is based on estimates of goal commitment and highlighting, and that which is based on estimates of lack of progress and balancing (Fishbach & Dhar, 2005; Fishbach, Dhar, & Zhang, 2006). We propose that when people evaluate their level of commitment, focusing on what has been accomplished to date signals that the goal is desirable and feasible more than focusing on what remains to be done, and thus it increases the motivation to work on the goal that was partially attained. Conversely, when

people evaluate their level of goal progress, focusing on what remains to be done signals lack of progress more than focusing on what has been accomplished to date, and thus it increases the motivation to work on the goal that is partially not attained. In what follows, we review the theoretical background for these predictions, which we then test in four studies that explore the effect of emphasizing to-date versus to-go information on self-regulation toward both personal and social goals (e.g., study vs. making a pledge).

Effects of To-Date and To-Go Information

In the course of self-regulation toward abstract, ongoing goals (e.g., to be generous, educated, healthy), people often set a specific end state with a discrete completion point, which then facilitates their choices of actions toward that end state (Ajzen, 1985; Gollwitzer, 1999; Locke & Latham, 2002). For example, dieters set specific end states, such as losing 10 pounds, and students set end states, such as studying for a specific exam. When pursuing these goals, people consider two questions: one refers to goal commitment and whether the goal is worth pursuing, and the other refers to the level of goal progress and the remaining distance to goal attainment.

Research on the dynamics of self-regulation (Fishbach & Dhar, 2005; Fishbach et al., 2006) has demonstrated that whether people ask about commitment or progress determines the course of self-regulation over time. When people ask about goal commitment, the strength of their motivation is defined by the product of the perceived value of the goal and the likelihood of goal attainment (i.e., value × expectancy; Feather, 1982; Lewin, Dembo, Festinger, & Sears, 1944; Tolman, 1955; Vroom, 1964). Completed goal-related actions are then a sign of a high level of commitment, and they motivate a congruent choice of actions through a dynamic of highlighting the pursuit of the partially accomplished goal and prioritizing it over other goals. In

addition, if a person's motivation is based on perceived goal commitment and highlighting, the focus on what has not been accomplished (a to-go frame) is a sign of low commitment, which undermines the motivation to adhere to the goal. For example, the focus on completed (versus uncompleted) coursework motivates students to study more whenever it is a sign of greater commitment to academic pursuits, whereas the focus on uncompleted coursework signals low commitment and reduces the motivation to study.

In a demonstration of commitment frame, prior research has shown that people learn about their underlying goals by observing their own behavior (e.g., Aronson, 1997; Bem, 1972; Cialdini, Trost, & Newsom, 1995; Freedman & Fraser, 1966), which results in a preference for actions that resemble previous ones by means of serving the same underlying goals (Cooper & Fazio, 1984; Festinger, 1957). A tendency to adhere to a course of actions because of an initial investment of efforts in a similar course of actions (i.e., highlighting) is sometimes portrayed as a sunk-cost fallacy (Arkes & Ayton, 1999; Arkes & Blumer, 1985). However, this fallacy illustrates a basic principle in self-regulation; namely, goal-related actions increase commitment to the goal and motivate congruent actions.

However, at other times, people ask about their level of goal progress, and the strength of their motivation is a function of the size of the discrepancy between their current state and goal attainment (Carver & Scheier, 1998; Higgins, 1987; Locke & Latham, 2002). When motivation is based on a discrepancy or lack of goal progress, the focus on what remains to be done is a sign of low progress, which increases the motivation to adhere to a goal through a dynamic of balancing. When people balance between actions or goals, they plan to pursue a goal because they have not invested in it as much as they should, and they disengage from a goal in which they have invested. Thus, whereas the focus on what remains to be done is motivating, the focus

on what has been accomplished to date should undermine a person's motivation because it signals sufficient progress (e.g., Monin & Miller, 2001). For example, the focus on incomplete coursework motivates studying more than the focus on completed coursework whenever it signals insufficient progress.

Congruent with a progress frame of self-regulation, cybernetic theories portray the process of self-regulation as oriented toward reducing the discrepancy between the present, actual state and the desired end state (Bandura, 1991; Carver & Scheier, 1998; Higgins, 1987; Locke & Latham, 1990; Miller, Galanter, & Pribram, 1960). For example, Carver and Scheier (1990, 1998) find that the remaining distance to a desired end state motivates behavior toward the attainment of the end state, and research on self-discrepancy theory (Higgins, 1987) and regulatory focus theory (Higgins, 1997) further attests that discrepancies to different types of goals cue distinctive actions that attempt to achieve these different end states. In addition, research on goal setting (Locke & Latham, 1990) finds that people set specific goal end states (i.e., standards) for themselves and for others to motivate actions that reduce the distance to goal attainment. What is common to these lines of research is the assumption that perceived lack of progress is motivating.

In summary, there are two types of evidence in goal pursuit—what has been accomplished to date and what remains to be done to reach the end state—and these types of evidence have opposite implications for commitment-based versus progress-based self-regulation. In a commitment frame, people adhere to a goal because they have partially accomplished it (highlighting), whereas in a progress frame, people adhere to a goal because they have yet to accomplish it (balancing).

Commitment Certainty

What, then, determines whether a person's motivation is based on perceived goal commitment and highlighting the pursuit of a goal or on perceived lack of progress and balancing between goal actions? We propose that people ask about goal commitment only if their commitment is somewhat ambiguous—that is, if commitment is uncertain or relatively low. When people feel unsure about their level of goal commitment, their primary concern is to evaluate whether the goal is important and worth pursuing further, and they infer higher commitment on the basis of accomplishments to date. As a result, emphasizing to-date information should be more motivating than emphasizing to-go information. For example, perceived goal commitment influences the decision whether to donate money to a novel (vs. familiar) charity or whether to study for a moderately (vs. highly) important course. In these situations, emphasizing the amount of money that has been donated to date (vs. how much is needed to meet the campaign goal) or the amount of completed (vs. remaining) coursework would be more motivating.

In contrast, people ask about goal progress when they are certain about their commitment to a goal that is unambiguously important; then, their motivation is based on inferences of lack of progress (see also Brunstein & Gollwitzer, 1996; Wicklund & Gollwitzer, 1982). As such, emphasizing to-go information is more motivating than emphasizing to-date information. For example, lack of progress should be motivating when people are deciding whether to donate money to a familiar and valuable charity or when they are studying for a highly (vs. moderately) important course. In these situations, the focus on the amount of money that is needed to reach a campaign goal and the remaining work to complete a course will be more motivating than information about accomplishments.

Importantly, in the pursuit of a goal with a clear end state, any accomplishment (e.g., 50% to date) can be framed as a lack of accomplishment (e.g., 50% to go). We predict that the effect of this framing manipulation will depend on a person's commitment certainty; that is, a 50% to-date frame will increase motivation when people are not certain about their commitment to their goal and ponder the value of the goal and attainment expectancy, whereas a 50% to-go frame will be more motivating when people ask whether more progress is needed to attain their goal.

Self-Regulation Toward Personal Versus Social Goals

People often choose to focus on their own actions toward a personal goal versus what remains to be done to attain the goal. For example, marathon runners consider the distance completed versus the distance remaining to complete the race. Other times, people encounter similar information about the progress that their social group is making toward a common goal (e.g., the group has accomplished 50% to date or has 50% to go). Moreover, to motivate action, social agents choose to provide information on what a social group of similar others has already accomplished or has yet to do. For example, fundraisers present information about the amount of donations they have received thus far (i.e., seed money) from similar others versus the amount that is still required to complete the fundraising goal.

We predict that when choosing to work on a social goal, people rely on the same information as when they choose to work on a personal goal. Specifically, they want to evaluate whether the social goal is worth supporting or whether the goal is progressing. They then infer high goal commitment on the basis of others' actions to date (i.e., present contribution) versus to go (i.e., lack of contribution), and they infer lack of goal progress on the basis of others' remaining actions to go versus to date. For example, people make pledges to a charity

organization because others have made pledges previously, and thus they infer that the cause is important, or because others have not yet made their pledges, and thus the goal is far from completion. In line with the aforementioned analysis, we predict that information about others' contributions will increase motivation among uncommitted people, whereas information about others' lack of contributions will increase motivation among committed people. In general, we predict that to the extent people identify themselves with a social group (e.g., Brewer, 2003), the processes of adhering to personal and social goals are similar, and depending on a person's level of goal commitment certainty, emphasizing to-date versus to-go information can have different effects on the motivation to adhere to a goal.

Overview of Research

Four studies test how the focus on either the accumulated amount of progress (a to-date frame) or the remaining amount of progress (a to-go frame) influences motivation to pursue goals. The studies test the hypothesis that emphasizing to-date information increases goal adherence when commitment is uncertain because it signals greater commitment. In contrast, emphasizing to-go information increases motivation when commitment is certain because it signals lack of progress.

These studies hold the amount of actual progress constant (approximately 50%) and manipulate the focus on actions to date versus to go and commitment certainty. Study 1 examines whether the focus on completed (uncompleted) coursework increases student participants' motivation to study for an elective (core) course exam and whether inferences of commitment mediate the effect on studying for the elective (rather than core) course exam to which commitment is uncertain. Using the context of loyalty programs, Study 2 then examines whether the focus on completed (uncompleted) purchases increases the motivation to use a

frequent-buyer card that offers luxury (necessity) rewards and whether inferences of progress mediate the effect on using the card that offers necessity rewards, to which commitment is certain, but not luxury rewards. Study 3 tests whether the focus on accumulating progress to date (to go) increases the pursuit of a social goal that is framed as a desire (vs. need). Study 4 is a field experiment involving an actual fundraising campaign; it tests whether to-date-framed seed money (i.e., how much has been donated) increases first-time contributions to the charity and whether to-go-framed money (i.e., how much is needed to achieve the donation goal) increases repeated contributions.

Study 1: Academic Goals

Study 1 examines how the relative focus on completed versus remaining actions influences the motivation to work on a goal. Undergraduate student participants assigned study time either to a core-course exam, to which their commitment is certain and relatively high, or to an elective-course exam, to which their commitment is uncertain and relatively low, after learning that they covered (vs. had not yet covered) half the exam materials. We predicted that for an elective-course exam, emphasizing the progress to date (vs. to go) would increase the motivation to study, whereas for a core-course exam, emphasizing the remaining progress to go (vs. to date) would increase the motivation to study.

Method

Participants. Ninety-two University of Chicago undergraduate students (30 men, 62 women) participated in the experiment for monetary compensation. The gender of participants did not yield any effects here or in subsequent studies, and therefore we omit it from further consideration.

Procedure. This study employed a 2 (course: core vs. elective) × 2 (focus: to date vs. to go) between-subjects design. Participants completed a survey on academic goals. The first part of the survey asked all participants to consider a scenario in which they have two exams scheduled on the same day, a week from the present date, for difference classes. Participants read that one exam was for a core course for which they would want to earn the best grade possible, whereas the other exam was for an elective course that they were taking pass/fail. These instructions emphasized the certain and relatively high commitment to the core-course (vs. elective-course) exam. The rest of the survey referred to only one of these exams, depending on the experimental condition.

To manipulate the focus on completed versus remaining actions, the survey included a chart representing the amount of materials that participants had presumably already covered (a to-date frame) or that they had yet to cover (a to-go frame) for their exam. The chart consisted of a bar containing an arrow. The bar represented the total amount of work toward goal attainment (100%), and the arrow represented the current level of performance, which was held at 48% across all conditions. We purposely chose a number close to the midpoint but different from 50%, which we assumed would be too easy for participants to reverse in their minds (e.g., framing 50% to date as 50% to go). By choosing a number that is close to the midpoint, we further controlled for a possible systematic difference in motivation as a function of emphasizing small and large areas. For example, 20% to go and 80% to date vary not only by focus but also by the size of the emphasized area.

In the to-date condition, the arrow was colored from the starting point (0%) to the current level of progress (48%), and participants read that the arrow described the amount of materials they had already covered for their exam. In the to-go condition, the arrow was colored from the

current level of performance (48%) to the end point (100%), and participants read that the arrow described the amount of materials they were yet to study for their exam.

Next, to measure motivation to study for the exam, participants indicated the amount of time they would spend studying for the exam (up to 20 hours) and the amount of effort they would put into studying (7-point scale; 1 = *not at all*, 7 = *very much*). To assess the effect of the manipulation on participants' level of commitment, they further rated the importance of studying for the exam (7-point scale; 1 = *not important at all*, 7 = *very important*). Upon completion of the survey, the experimenter debriefed and dismissed the participants.

Results and Discussion

The studying times participants listed were positively skewed; therefore, we log transformed them using natural log transformation (all values > 0). We then created an index of motivation to study by collapsing the standardized time and effort measures into a motivation index ($r = .74$, $p < .001$). A course × focus ANOVA of this index yielded a main effect for course, $F(1, 88) = 275.55$, $p < .001$, indicating greater motivation to study for the core-course exam ($M = .83$) than for the elective-course exam ($M = -.77$). This main effect is consistent with the commitment manipulation, indicating that participants' commitment to the core-course exam was greater than their commitment to the elective-course exam. There was no main effect for focus, $F < 1$.

In support of the hypothesis, the ANOVA yielded the predicted course × focus interaction, $F(1, 88) = 10.78$, $p < .01$ (see Figure 1). Planned contrasts revealed that for the elective-course exam (uncertain commitment), to-date information increased the motivation to study ($M = -.58$) more than to-go information ($M = -.97$), $t(46) = 2.49$, $p < .05$. However, for the core-course exam (certain commitment), to-go information increased the motivation to study ($M = .96$) more

than to-date information ($M = .71$), $t(42) = -2.26$, $p < .05$. We obtained similar patterns of interaction for each dependent variable separately (for time spent studying, $F(1, 88) = 7.11$, $p < .01$; for effort investment, $F(1, 88) = 6.25$, $p < .05$).

We posit that emphasizing completed versus remaining coursework increases participants' motivation to study for the elective-course exam by signaling that studying is important. When the commitment to study is already high and certain (i.e., core exam), students do not infer importance from completed coursework, and therefore the focus on to-date versus to-go information should not influence perceived importance. To explore this hypothesis, we analyzed the importance ratings. A course × focus ANOVA of importance ratings yielded a main effect for course, $F(1, 88) = 165.08$, $p < .001$, and a main effect for focus, $F(1, 88) = 4.24$, $p < .05$. In support of the manipulation, participants indicated that studying for the core-course exam was more important ($M = 6.09$) than studying for the elective-course exam ($M = 3.65$). In addition, to-date information increased perceived importance ($M = 5.04$) more than to-go information ($M = 4.58$), though the latter effect was qualified by the interaction. In support of the hypothesis, the ANOVA yielded the predicted course × focus interaction, $F(1, 88) = 4.42$, $p < .05$. Planned contrasts revealed that in the elective-course exam (uncertain commitment), to-date information increased the perceived importance of the exam ($M = 4.04$) more than to-go information ($M = 3.25$), $t(46) = 2.70$, $p < .05$. However, for the core-course exam (certain commitment), to-date ($M = 6.09$) and to-go ($M = 6.10$) information yielded similar importance ratings, $t < 1$. Thus the relative emphasis on to-date (vs. to-go) information increases the value of studying and, subsequently, commitment only when initial commitment is uncertain and relatively low (elective course).

Mediation analysis. The increase in subjective importance when considering completed (vs. remaining) coursework should further mediate the effect on motivation to study for the elective-course exam but not for the core-course exam. A series of regression analyses supports this prediction. Beginning with the elective-course exam, the focus on to-date versus to-go information directly increased the motivation to study, $\beta = .35$, $t(46) = 2.49$, $p < .05$. In addition, the focus on to-date versus to-go information increased perceived importance, $\beta = .37$, $t(46) = 2.70$, $p < .05$, which in turn increased the motivation to study, $\beta = .49$, $t(46) = 3.76$, $p < .01$. When controlling for importance ratings, the path between the focus on to-date versus to-go information and motivation to study became nonsignificant, $\beta = .19$, $t(45) = 1.40$, $p > .15$. The Sobel test statistic indicated that the reduction of the focus effect on motivation was significant, $z = 2.02$, $p < .05$ (see Figure 2).

A similar analysis conducted in the core-course-exam condition revealed that changes in perceived importance as a result of the manipulation did not mediate the effect on motivation to study. Specifically, the focus on to-date versus to-go information directly decreased the motivation to study, $\beta = -.33$, $t(42) = -2.26$, $p < .05$. In addition, the focus on to-date versus to-go information did not affect perceived importance, $\beta = -.01$, $t(42) < 1$, though perceived importance increased the motivation to study, $\beta = .33$, $t(42) = 2.23$, $p < .05$. When controlling for importance ratings, the path between the focus on to-date versus to-go information and motivation to study remained significant, $\beta = -.33$, $t(41) = -2.37$, $p < .05$, suggesting that, as we expected, the effect of focus on motivation is independent of perceived importance.

The results of the mediation suggest that regardless of the exam (core vs. elective course), importance ratings, which correspond to commitment, predict motivation to study. However, in support of our hypothesis, only in the elective-course condition did participants infer importance

on the basis of completed coursework, which in turn increased their motivation to study. In the core-course condition, participants did not use the information about their completed (vs. remaining) coursework to infer their level of commitment, as demonstrated by the null effect on importance ratings.

Study 1 provides initial evidence for our hypothesis that emphasizing completed versus remaining actions increases the motivation to adhere to a goal when commitment is uncertain by signaling that the goal is important. We found that to-date (vs. to-go) information increased the motivation to study for a course to which participants were not committed. Therefore, these participants followed a dynamic of highlighting; that is, they chose to study because they had completed some coursework. In contrast, to-go (vs. to-date) information increased the motivation to study for a course to which participants were committed. Thus, they followed a dynamic of balancing; that is, they chose to study because they had remaining coursework that they had not yet completed.

In Study 2, we further test whether the focus on to-go (vs. to-date) information increases motivation when commitment is certain by signaling lack of goal progress. Thus, whereas in Study 1 perceived importance mediated the effect on motivation when commitment was uncertain, Study 2 attempts to demonstrate that expected progress mediates the effect on motivation when commitment is certain. To strengthen the external validity of our findings, Study 2 further manipulates the focus on completed versus remaining actions in the context of a loyalty program. Loyalty (frequency) programs fit within our framework because they require people to keep investing their resources (e.g., money, time, effort) to reach the end state of receiving a reward, and therefore people's attention is naturally drawn to what has been (vs. has yet to be) accomplished to complete the program and receive the reward.

Study 2: Loyalty Programs

To examine whether the focus on completed versus remaining actions affects the motivation to participate in a loyalty program, we provided participants with a typical frequent-buyer card that emphasized either completed or remaining purchases to receive a reward. We further manipulated the nature of the reward: a necessity versus a luxury. Buying luxury items is difficult to justify (e.g., Prelec & Loewenstein, 1998; Thaler, 1980), and therefore people's commitment is uncertain and relatively low. In turn, focusing on completed purchases may deliver information about the importance of investing resources toward the luxury reward. In contrast, people do not need to justify the consumption of necessities, for which commitment is already certain and high. Therefore, the focus on remaining purchases, which emphasizes the absence of progress, should increase the motivation to invest resources toward the necessity reward.

Participants in this study were University of Chicago undergraduate students, who indicated their motivation to use a university bookstore frequent-buyer card that offered luxury or necessity rewards. We manipulated the focus on to-date versus to-go information by presenting a card that adds a stamp for each purchase (i.e., the visual focus is on the number of completed slots) versus a card that removes a stamp for each purchase (i.e., the visual focus is on the number of remaining slots). We predicted that when participants expected to earn luxury rewards, those in the to-date condition would express greater motivation to use the bookstore card, but when they expected to earn necessity rewards, those in the to-go condition would express greater motivation to use the card.

Method

Participants. Ninety-two University of Chicago undergraduate students (50 men, 42 women) participated in the study for monetary compensation.

Procedure. This study employed a 2 (reward type: necessities vs. luxuries) × 2 (focus: to date vs. to go) between-subjects design. Participants read a scenario in which the university bookstore was offering a rewards program, and they needed to have a frequent-bookstore-patron card to participate in the program. Using this card, they could earn a $50 gift certificate after making 12 purchases of $50 each. A gift certificate for University of Chicago merchandise was used as a luxury reward, and a gift certificate for textbooks was used as a necessity reward. In the necessities condition participant read that the gift certificate "may be used for the purchase of textbooks," whereas in the luxuries condition, participants read that it "may be used to purchase University of Chicago merchandise (e.g., sweatshirts and mugs with a University of Chicago logo)."

Participants then read that a friend who recently graduated left them a frequent-bookstore-patron card. They were handed an actual card. In the to-date condition, the card had six book-shaped stamps printed on 6 of 12 slots; thus, participants' visual attention was drawn to the completed slots. Participants read that they would fill one slot per $50 purchase. In the to-go condition, 6 of 12 preexisting book-shaped slots were punched; thus, their visual attention was drawn to the remaining slots to receive the reward. Participants read that one slot is removed from the card per $50 purchase.

Next, participants rated their interest in using the bookstore card (7-point scale; 1 = *not likely*, 7 = *certainly*). In addition, to measure expected goal progress, participants rated the extent to which filling one slot (in the to-date condition) or removing one slot (in the to-go condition) would make them feel that they were making progress toward the reward (1 = *not at all*, 7 = *very*

much). As a manipulation check, participants rated the attractiveness of the reward program (1 = *not at all attractive*, 7 = *very much attractive*). Upon completion of the survey, an experimenter debriefed and dismissed the participants.

Results and Discussion

In support of the manipulation, a type × focus ANOVA of attractiveness of the reward program yielded a main effect for the reward type, $F(1, 88) = 8.48$, $p < .01$, indicating that necessity rewards (textbooks; $M = 4.41$) were more attractive than luxury rewards (University of Chicago merchandise; $M = 3.49$). There was no main effect for focus, $F(1, 88) = 2.03$, *ns*, nor was there an interaction effect, $F(1, 88) = 1.15$, *ns*. Notably, although attractiveness does not correspond to commitment certainty, part of the reason that participants were more committed to enroll in a program that offered necessity (vs. luxury) rewards is that these rewards were viewed as more attractive.

Next, a type × focus ANOVA of participants' interest in joining the reward program (using the bookstore card) yielded no main effects for reward type and focus, Fs < 1. In support of the hypothesis, the ANOVA yielded the predicted reward type × focus interaction, $F(1, 88) = 12.20$, $p < .01$ (see Figure 3). Planned contrasts revealed that participants were more interested in joining the program that offered luxury rewards in the to-date condition ($M = 5.00$) than in the to-go condition ($M = 3.71$), $t(43) = 2.54$, $p < .05$. However, they were more interested in joining the program that offered necessity rewards in the to-go condition ($M = 5.26$) than in the to-date condition ($M = 4.00$), $t(45) = –2.41$, $p < .05$.

We posit that completed purchases increase commitment certainty toward earning luxury rewards, but when commitment is certain, as in the case of necessity rewards, remaining purchases increase a person's sense of lack of progress toward earning the necessity rewards. If

the pursuit of necessities is driven by perceived lack of progress, we would further expect that a single purchase would signal more progress when it is framed as working toward remaining purchases than when it is framed as adding to completed purchases. To explore this hypothesis, we analyzed the expected progress ratings as a function of reward type × focus. An ANOVA of these ratings yielded a main effect of focus, $F(1, 87) = 6.39$, $p < .05$, and no main effect of reward type, $F < 1$. That is, participants in the to-go condition indicated that each purchase would make them feel that they were making more progress ($M = 3.72$) than those in the to-date condition ($M = 2.96$), though this main effect was qualified by the predicted reward type × focus interaction, $F(1, 87) = 6.39$, $p < .05$. Planned contrasts revealed that in the program that offered necessity rewards, participants in the to-go condition expected to make more progress with each purchase ($M = 4.14$) than those in the to-date condition ($M = 2.63$), $t(44) = -3.89$, $p < .01$. However, in the program that offered luxury rewards, participants in the to-go ($M = 3.33$) and to-date ($M = 3.32$) conditions expected similar amounts of progress, $t < 1$. Thus, emphasizing the remaining purchases to go (vs. to date) increased participants' beliefs that each purchase would result in greater progress, but this was only the case for necessity (vs. luxury) rewards.

Mediation analysis. A mediation analysis tested the effect of expected progress on the motivation to work toward earning the reward. Beginning with the program that offered necessity rewards, the focus on to-go versus to-date information directly increased participants' motivation to use the card, $\beta = .34$, $t(45) = 2.41$, $p < .05$. In addition, the focus on to-go versus to-date information increased participants' expected progress, $\beta = .51$, $t(44) = 3.89$, $p < .01$, which in turn increased their motivation to use the card, $\beta = .35$, $t(43) = 2.48$, $p < .05$. When we controlled for progress ratings, the path between the focus on to-go versus to-date information and motivation to use the card became nonsignificant, $\beta = .15$, $t(43) < 1$. The Sobel test statistic

indicated that the reduction of the focus effect on motivation was marginally significant, $z =$ 1.84, $p = .06$ (see Figure 4).

A similar analysis conducted on the luxury rewards revealed that the focus on to-go versus to-date information directly decreased the motivation to use the card, $\beta = -.36$, $t(43) = -2.54$, $p < .05$. However, the focus on to-go versus to-date information did not affect expected progress, $\beta = .00$, *ns*, though expected progress increased the motivation to use the card, $\beta = .35$, $t(43) = 2.48$, $p < .05$. Most importantly, when we controlled for progress ratings, the effect of to-go versus to-date information on motivation to use the card remained significant, $\beta = -.36$, $t(42) = -2.71$, $p = .01$, which suggests that the effect of the focus manipulation on motivation to work toward luxury rewards was independent of expected progress.

Overall, the mediation analyses demonstrate that only when pursuing necessities (vs. luxuries) did participants expect to make more progress with each purchase when it was framed as purchases remaining versus completed. In turn, these expectations increased their motivation to enroll in the program that offered necessity (vs. luxury) rewards—that is, when commitment was certain and high.

The results of Study 2 extend our previous results by suggesting that the focus on completed purchases increases the motivation to work toward earning luxury rewards, whereas the focus on remaining purchases increases the motivation to work toward earning necessity rewards. In addition, only the pursuit of necessities (vs. luxuries) was driven by inferences of expected progress. We find this pattern in a context in which the initial progress on a goal was made by another person and inherited by the participant; thus, there was no experimental demand to adhere to the goal in order to justify one's past actions (i.e., reduce dissonance).

Overall, Studies 1-2 support our hypothesis that completed and remaining actions provide information on commitment or progress, depending on what people ask. In Studies 3 and 4, we test people's motivation to invest in social goals, which we define as goals that require joint efforts by a group of individuals (e.g., charitable fundraising). We predict that similar factors (lack of progress, the presence of commitment) will affect people's motivation to invest in a social goal, depending on their commitment certainty, and that these factors will have opposite implications for when completed versus remaining actions will increase goal adherence.

Study 3: Showing School Spirit

Study 3 examines participants' motivation to support their university by purchasing university merchandise. Participants read that their university set a goal of having 100% of the students purchase at least one item of university merchandise (e.g., a mug with the university logo) to express their support. They then indicated their motivation to purchase such an item as a function of the proportion of students who supposedly already own or do not yet own university merchandise and the framing of such purchase as a need or a desire.

Notably, unlike Study 2, which used different sets of items for luxury versus necessity rewards, Study 3 uses a single category of items (equivalent to luxuries in Study 2) and manipulates the commitment to purchase by asking participants to list reasons they may *want to* versus *need to* purchase university merchandise. We assumed that needs (like necessities) must be fulfilled, and therefore a person's commitment to purchase is certain and high. Conversely, people's desires (like luxuries) do not have to be fulfilled, and therefore a person's commitment is uncertain and relatively low. Accordingly, information about other people who have not yet purchased university merchandise should motivate the purchase of merchandise that is framed as

needs, whereas information about others who have already purchased university merchandise should motivate the purchase of merchandise that is framed as desires.

Method

Participants. Seventy-seven University of Chicago undergraduate students (44 men, 33 women) participated in the study for monetary compensation.

Procedure. This study employed a 2 (motivation: want vs. need) × 2 (focus: to date vs. to go) between-subjects design. Participants completed a survey titled "University Bookstore Survey," which consisted of two parts. The first part was an evaluation of University of Chicago merchandise (e.g., sweatshirts or mugs with the university logo) that is available at the university bookstore. Participants in the *want* condition read that they should list three reasons they may want to purchase University of Chicago merchandise to express their support. They listed reasons such as "I have school pride" and "it is on sale." Participants in the *need* condition listed three reasons they may need to purchase University of Chicago merchandise. They listed reasons such as "I need a souvenir for a friend or family" and "I need to show off my school pride." All the participants could easily list three reasons.

In the second part of the survey, participants read that the University of Chicago set a goal of having 100% of the students purchase University of Chicago merchandise. They further received information about the percentage of students that already purchased (vs. not purchased) University of Chicago merchandise, according to a recent survey that was (presumably) conducted by the University of Chicago and included responses from 342 present students.

In the to-date condition, participants read that 170 of 342 surveyed students indicated that they had already purchased University of Chicago merchandise. Participants were also shown a chart similar to the one employed in Study 1. The chart contained two bars: one that represented

the number of total respondents (342) and one (on top of it) that represented the number of

buyers (170); the top bar covered approximately 50% of the left side of the bottom bar. In the to-

go condition, participants were told that 172 of 342 surveyed students indicated that they had not

purchased University of Chicago merchandise. Participants were also shown a chart in which a

bottom bar represented the number of total respondents (342) and a top bar, which covered

approximately 50% of the right side of the bottom bar, represented the number of nonbuyers

(172).

To measure participants' motivation to purchase University of Chicago merchandise and

thus help the university meet the goal, participants listed the amount of money they planned to

spend on University merchandise this year. Participants further rated the likelihood of purchasing

University of Chicago merchandise this year (7-point scale; 1 = *not likely*, 7 = *certainly*). They

were then presented with a list of various University of Chicago merchandise items (e.g.,

glassware/mugs, key chains/lanyards, sweatshirts) and were asked to mark the items they

planned to buy. Upon completion of the survey, the experimenter debriefed and dismissed the

participants.

Results and Discussion

The amounts of money participants listed were not normally distributed; therefore, we

log transformed the money measure using natural log transformation after adding 1 to each score

to include 0 values. We then created an index of purchase motivation by collapsing the

standardized measures of amount of money, purchase intent, and number of items ($\alpha = .70$). A

motivation × focus ANOVA of this index yielded no main effects for motivation and focus, Fs <

1. However, in support of the hypothesis, this ANOVA yielded the predicted motivation × focus

interaction, $F(1, 72) = 11.22, p < .001$ (see Figure 5). Planned contrast revealed that when

participants listed reasons they wanted to purchase, those in the to-date condition indicated greater motivation to purchase university merchandise ($M = .37$) than those in the to-go condition ($M = -.13$), $t(39) = 2.25$, $p < .05$. However, when participants listed reasons they needed to purchase merchandise, participants in the to-go condition indicated greater motivation ($M = .27$) than those in the to-date condition ($M = -.33$), $t(33) = -2.48$, $p < .05$. We obtained similar patterns of interaction for each variable separately (for money, $F(1, 73) = 9.22$, $p < .01$; for purchase intent, $F(1, 73) = 5.63$, $p < .05$; for the number of items, $F(1, 72) = 6.17$, $p < .05$).

These results extend our findings to the pursuit of desires versus needs and when progress (or absence of progress) is evaluated in relation to a social rather than a personal goal. We find a greater motivation to pursue a desirable end state when one considers others' actions (vs. lack of actions) toward this goal because others' actions imply that the goal is valuable and commitment is high. We further find a greater motivation to pursue a need when one considers others' lack of actions because the absence of actions signals lack of goal progress.

Study 3 measured behavioral intentions. Thus, a study that tests for actual goal adherence is still needed. Accordingly, Study 4 employs a field experiment in the context of a charitable fundraising. Previous research on charitable giving has shown that an increase in the amount of contributions to a fundraising program (i.e., seed money) leads to an increase in the rate of subsequent contributions (Andreoni, 1989; List & Lucking-Reiley, 2002). Professional fundraisers also consider the role of seed money; a recent manual for fundraisers recommends not starting the public phase of a fundraising campaign until 40%–50% of the goal is pledged as seed money (Fundraising School, 1999). However, fundraisers typically present seed money only in the form of what has been accomplished to date relative to the campaign goal but rarely in the form of how much the organization needs to accomplish to achieve its goal. We predict that to-

date versus to-go framing of seed money can increase contributions in different ways that fit different audiences. That is, to-date-framed seed money will be more motivating than to-go-framed seed money for people who have never made any contribution to the charity because it signals that the goal of the charity is valuable and feasible. In contrast, to-go-framed seed money will be more motivating than to-date-framed seed money to people who have made repeated contributions to the charity because it signals lack of progress on an already important goal.

Study 4: Charitable Fundraising

We conducted this field experiment with the cooperation of the South Korean office of Compassion International. For research purposes, we created a campaign that established a special fund to support AIDS orphans. The solicited population included people who never made any contribution to Compassion (i.e., the "cold list") and regular donors, who donated an average of $32 per month over the past year (i.e., the "hot list"). They all learned that the campaign goal was to raise 10 million won (US$10,000) to help AIDS orphans in Africa and that approximately half the money had already been raised through various channels. Half of the participants received a solicitation letter that emphasized how much had been donated (a to-date frame), and the other half received a letter that emphasized how much was still required to achieve the campaign goal (a to-go frame). We predicted that among potential donors from the cold list (uncertain commitment), an emphasis on what has been accomplished would increase donations, whereas among regular donors from the hot list (certain commitment), an emphasis on what has yet to be accomplished to achieve the goal would increase donations.

Method

Participants. We included in the study 122 potential donors (58 men, 64 women), who constituted the entire cold list of Compassion Korea, and randomly sampled 124 regular donors

(54 men, 70 women) from the hot list (more than 3000 donors). The participants were all from Korea. Their average age was 39 years old (cold list = 40 years old, hot list = 37 years old), and it ranged from 18 to 69 years old. Participants on the cold list were people who indicated interest in Compassion and provided their names and addresses but had not made a single donation yet. The average donation period for regular donors was 469 days (SD = 147 days) before the beginning of the study.

Procedure. This study employed a 2 (commitment: cold list vs. hot list) × 2 (focus: to date vs. to go) between-subjects design. Participants received a solicitation letter from Compassion Korea (see http://www.compassion.or.kr) that invited them to support Compassion's AIDS Initiative. Compassion is an international Christian child sponsorship organization (see http://www.compassion.com) with offices in nine countries (e.g., Australia, France, the United States). Since 1952, Compassion has provided support for children in Africa, Asia, Central and South America, and the Caribbean. Most regular donors provide a monthly gift that supports a child (or children) in one of these countries. Recently, Compassion has established the AIDS Initiative, which solicits gifts for food, shelter, medicine, and basic care for AIDS orphans.

As part of our study, Compassion Korea joined the AIDS Initiative by sending a solicitation letter to potential donors (cold list) and regular donors (hot list). The letter described the organization and the AIDS Initiative. It indicated the following (translated from Korean):

> Every 14 seconds, somewhere in this world, a child is orphaned by the AIDS virus. Every day, 14,000 children are infected by HIV and every year 510,000 children die due to AIDS. It is expected that by 2010, 2.5 million children will become orphans due to AIDS. These statistics do not even begin to depict the magnitude of the suffering that AIDS orphans are enduring. Subsequent to the parents' death, AIDS orphans are ostracized by relatives and neighbors because of unfounded fears of contracting the disease. Shunned by the community and with

no one to look after them, AIDS orphans cannot help but feel abandoned by the world around them and by God. Compassion Korea hopes to provide hope and dreams to these children who suffer under not only the weight of poverty, but also AIDS. Help us provide shelter and solace to these children who have become exposed to this terrifying pandemic.

The solicitation letter further indicated that

Compassion Korea's special HIV/AIDS fund will provide children with food, blankets, clothes, and shelter through a special program tailored especially to their needs. Furthermore, the fund will help provide badly needed medicine and treatment to families afflicted with AIDS, and will provide educational and spiritual support for those most in need of a helping hand.

Importantly, the letter indicated that the goal of Compassion Korea was to raise 10 million won (approximately US$10,000) to help AIDS orphans in Africa.

The content of the solicitation letter was similar across conditions, except for the information about goal progress. Participants in the to-date condition read, "To this point, we have successfully raised $4,920 through various channels." Those in the to-go condition read, "We have successfully raised money through various channels and need another $5,080." As in previous studies, we included a chart describing the campaign goal and the current level of progress, which focused participants' attention on to-date versus to-go information (see Figure 6). The chart included a long bar representing the campaign goal and, on top of it, an arrow representing the current level of progress. In the to-date condition, the top arrow began at the starting point on the left and ended at the current level of progress (50%). In the to-go condition, the top arrow began at the current level of progress (50%) and ended at the end point on the right ($10,000). We listed the campaign's goal ($10,000) in the bars and listed the current level of progress or remaining progress in the arrows ($5,080 vs. $4,920).

The last part of the letter invited participants to provide their donations. They delivered their gifts directly to Compassion Korea's account. The letter was sent in February 2006, and donations were received until May 2006. Compassion delivered the donations to support HIV/AIDS orphans in Uganda.

Results and Discussion

In total, 11.8% of the sample made contributions, raising $5,322.45 ($M$ = $21.63; SD = $173). We analyzed the frequency of contribution and the average contribution as a function of commitment (hot vs. cold list) and focus (to date vs. to go).

Beginning with the frequency of contribution, we used logistic regression to test the hypothesis. The dependent variable received a value of 1 if the participant made a donation and 0 if otherwise. The independent variables included commitment (hot vs. cold list), focus (to date vs. to go), and the interaction between commitment and focus. In support of our hypothesis, the interaction between commitment and focus was statistically significant and in the hypothesized direction, β = 3.39, Wald's χ^2 = 7.83, $p < .01$. That is, from the hot list, 1.6% of the participants in the to-date condition made a pledge, whereas 12.5% of the participants in the to-go condition made a pledge, $\chi^2(1) = 5.40$, $p < .05$. In contrast, from the cold list, 24.2% of the participants in the to-date condition made a pledge, whereas 8.3% of the participants in the to-go condition made a pledge, $\chi^2(1) = 5.60$, $p < .05$ (see Figure 7). Notably, 100% of participants from the hot list kept their regular monthly donations to Compassion during the campaign period, and the presented statistics refer to their additional contributions to the new HIV/AIDS initiative.

The amount of contributions were not normally distributed; therefore, we log transformed the contributions using natural log transformation after adding 1 to each score to include 0 values. An ANOVA yielded a main effect for commitment, $F(1, 242) = 6.17$, $p < .05$, indicating a higher

contribution rate among participants in the cold list (M = 1.81) than those in the hot list (M = 0.73). Notably, we conducted this analysis only on the donations made to the new HIV/AIDS initiative, and 100% of the hot-list participants were regular child sponsors who also donated an average of $96 during the campaign period ($32 per month over a three-month period), which suggests that despite this main effect, the participants from the hot list donated more money to Compassion overall. There was no main effect for focus, $F < 1$.

In support of the hypothesis, this ANOVA yielded the predicted commitment × focus interaction, $F(1, 242) = 10.47$, $p < .01$. Planned contrasts revealed that participants from the hot list (certain commitment) donated more money in the to-go condition (M = 1.26) than in the to-date condition (M = .17), $t(122) = -2.40$, $p < .05$. However, participants from the cold list (uncertain commitment) donated more money in the to-date condition (M = 2.66) than in the to-go condition (M = .94), $t(120) = 2.35$, $p < .05$.

These results support our predictions in a real-world setting and with regard to actual pledges that are made to a charity organization. Further analysis reveals that the presentation format increased the average donation by more than three times (M = .55 vs. 1.95 for low-motivation conditions [i.e., hot-list–to-date and cold-list–to-go conditions] vs. high-motivation conditions [i.e., hot-list–to-go and cold-list–to-date conditions], respectively), $t(244) = 3.18$, $p < .01$. Similarly, the presentation format increased the likelihood of donating by more than three times (M = 5% vs. 18%), $\chi^2(1) = 10.38$, $p < .01$.

It appears that information about others' donations (vs. lack of donations) increases pledges by people with uncertain commitment who want to evaluate the importance of making a pledge. In addition, information about the lack of donations increases pledges by people with certain commitment because it signals that the campaign is not progressing quickly enough. We

conclude that the motivation to make a pledge is based on either perceived commitment (for uncertain people) or perceived lack of progress (for certain people). Notably, in this field study, we compared members of two different groups (hot list vs. cold list), who could vary on variables other than their group affiliation, though we ensured that the age and gender distribution was similar across conditions. However, because we observed a pattern of results that was similar to previous studies that used full randomization, it is less likely that other variables were responsible for the different weight that hot-list versus cold-list participants assigned to information on what has been (vs. has yet to be) accomplished in their decision to pledge.

General Discussion

In the regulation of goals with a discrete completion point (e.g., getting married, finishing a paper), people often monitor their progress by attending to what they have accomplished (to-date) or what has yet to be accomplished (to-go) to reach the goal end state. The current article investigates how emphasizing each of these aspects of goals affects people's motivation.

We identified two factors that increase motivation: high commitment and lack of progress (Fishbach & Dhar, 2005; Fishbach et al., 2006). What a person has accomplished to date can be a sign of high commitment (Bem, 1972) or progress (e.g., Bandura, 1991, Carver & Scheier, 1981; 1990; Higgins, 1987; Locke & Latham, 1990), and what the person has yet to accomplish to reach the goal can be a sign of a lack of commitment or lack of progress. The current research shows that commitment certainty determines how to-date and to-go information are interpreted. We find that to-date (to-go) information signals high (low) commitment when goal commitment is under consideration. We further find that to-go (to-date) information signals lack of (sufficient) progress when goal commitment is certain and the pace of progress on the goal is

under consideration. Furthermore, a focus on to-date versus to-go information has similar effects on the pursuit of personal goals (e.g., studying) and contributing to social goals (e.g., charity donations).

Our results across four studies support these hypotheses. By keeping the amount of actual goal progress constant (approximately 50%), we find that the focus on what was accomplished increases goal adherence when commitment is uncertain, but the focus on what is yet to accomplish increases goal adherence when commitment is certain and high. Specifically, in Study 1, the focus on completed (vs. uncompleted) coursework increased the motivation to study for an elective course but decreased the motivation to study for a core course. In Study 2, the focus on accumulating (vs. remaining) stamps on a frequent-buyer card increased the motivation to use the card toward luxury rewards (e.g., mugs) but decreased the motivation to use the card toward necessity rewards (e.g., textbooks).

Studies 3 and 4 tested these predictions in the context of pursuing of social goals. We found that to the extent that people see themselves as part of a social group that shares common goals, information about the progress made to date by the group or the remaining efforts to go influenced their motivation. Specifically, in Study 3, providing information about the proportion of students who already owned (vs. did not yet own) University of Chicago merchandise increased the motivation to purchase these items when the purchase was framed as fulfilling a desire, but it decreased the motivation when the purchase was framed as fulfilling a need. Finally, in Study 4, in the context of charitable giving, framing seed money in terms of accumulating progress (vs. remaining progress to complete a campaign goal) increased first-time donations but decreased repeated donations by regular donors.

We also found evidence for the underlying inferences that motivate people to act on a goal. Thus, when commitment was uncertain, participants inferred that the goal was important on the basis of to-date (vs. to-go) information and therefore were more likely to adhere to the goal (Study 1). In addition, when commitment was certain, participants expected more goal progress when the focus was on to-go (vs. to-date) information, which in turn increased their motivation to adhere to the goal (Study 2). It appears that whether people infer commitment or progress depends on the question that they ask (Trope & Liberman, 1996); specifically, they can analyze their level of commitment (when commitment is uncertain) or their level of progress (when commitment is certain).

These results have implications for previous research on discrepancy theories in self-regulation (see, e.g., Carver & Scheier, 1998; Elliot & Church, 1997; Gollwitzer, 1999; Kuhl & Beckmann, 1985; Locke & Latham, 1990; Miller et al., 1960; Pervin, 1989). Whereas discrepancy theories posit that self-regulation is directed toward reducing the discrepancy between a current state and goal attainment, we find that the focus on the remaining distance to goal attainment motivates action only if goal commitment is certain. If a person's commitment is not yet certain, feedback on the size of the discrepancy (to-go information) is more discouraging than to-date information because it implies that the goal may be less desirable or feasible. Under these circumstances, the focus on the amount of achieved progress will be more motivating than attending to discrepancies.

These findings have specific relevance for research on regulatory focus theory and the distinction between self-regulation with a promotion focus (hopes and aspirations) and self-regulation with a prevention focus (duties and obligations; Higgins, 1987; 1997). This stream of research has found that success feedback (equivalent to actions to date) is more motivating than

failure feedback (equivalent to actions to go) in a promotion focus, whereas failure feedback is more motivating than success feedback in a prevention focus (e.g., Förster, Grant, Idson, & Higgins, 2001; Idson, Liberman, & Higgins, 2000). If promotion-oriented people express greater motivation after successes, it is possible that promotion orientation represents goal pursuit that is not driven by perceived discrepancy or lack of progress but rather by an inference that a person is committed to a goal end state.

Notably, whereas the current studies manipulated the focus on actions to date versus to go, another factor that influences motivation is the rate of accumulating progress (or closing discrepancy), which can be lower or higher than what a person expected (e.g., Carver & Scheier, 1998). We believe that information on sufficient rate of progress can be akin to focusing on what has been accomplished to date, whereas information on insufficient rate of progress can be akin to focusing on what has not been accomplished. For example, the time it took a charity campaign to raise a given amount of seed money conveys the information that the charity organization has accomplished a lot (if high) versus the notion that there is still a long way to go (if low). However, whereas the rate of progress matters for estimates of commitment and lack of progress, this information is often unavailable, less accessible, or difficult to evaluate (e.g., what poses a slow rate of progress for a charity campaign?). In this case, people base their motivation on what has been accomplished (vs. what remains to be done), regardless of the rate of goal progress.

The Time Frame for Goal-Related Actions

In this research, the actions completed to date were accomplished in the past and the remaining actions to go were possible future actions. For example, in several studies, the graphic presentation (to-date vs. to-go frames) implied a timeline of sorts, in which the left side of the midpoint represented past actions and the right side represented future actions (e.g., Figure 6).

However, this timeline is not necessary, and our theory predicts that completed actions to date could have a similar effect as optimistic plans for the future, and remaining actions to go could have a similar effect as missed opportunities in the past.

Specifically, people often get a sense of accomplishment from considering future plans or fantasies (Bandura, 1997; Oettingen & Mayer, 2002). What characterizes such future plans is that they are often optimistic as people expect to achieve a lot in the future (Buehler, Griffin, & Ross, 2002; Weinstein, 1989; Zauberman & Lynch, 2005). When optimistic expectations increase the sense of current accomplishment, they can increase commitment to a goal or, alternatively, if a person asks about progress, optimistic expectations can substitute for present actions and justify disengagement. As a demonstration of these effects, Zhang, Fishbach, and Dhar (in press) find that expected future workouts affect the decision to consume healthy food today by either signaling an enhanced sense of commitment, in which case participants consumed more healthy foods, or by signaling high progress, in which case participants consumed less healthy foods.

In addition, when people consider missed opportunities (i.e., what they failed to achieve in the past), their past actions should have a similar effect as considering what they have yet to accomplish; that is, they can signal lower commitment or lack of progress. Regardless of the time frame of uncompleted goal-related actions, when they signal lack of progress, they increase the motivation to adhere to a goal in the present, and when they signal lack of commitment, they reduce such motivation.

Taken together, we expect, for example, that a committed student is more likely to study today if he or she considers not studying last week (a missed opportunity) or next week (an action to go), a pattern that reflects a dynamic of balancing and characterizes committed

individuals. However, an uncommitted student is more likely to study today if he or she considers studying last week (an action to date) or plans to study next week (an optimistic plan), a pattern that reflects a dynamic of highlighting and characterizes uncommitted individuals. Thus, the effect of completed and remaining actions should be independent of time frame.

Implications for Personal Motivation and Public Policy

The current studies have implications for increasing personal motivation as well as for public policy makers and for how social organizations can persuade people to adhere to a social goal. First, with regard to increasing the motivational strength of personal goals, we propose that people can motivate themselves by attending either to what they have accomplished to date or yet to accomplish to reach an end state, depending on the basis for their motivation (establishing commitment versus monitoring progress). It is further possible that people strategically attend to to-date versus to-go information to relax their effort and "license" goal disengagement. For example, a highly committed student can justify procrastinating by considering his or her completed coursework (high progress), whereas a less committed student can justify procrastinating by considering his or her remaining coursework (low commitment).

Second, for public policy makers, these studies shed light on some of the ways social agents (e.g., educators, fundraisers, managers) can persuade others to contribute to a social goal by employing an appropriate communication strategy. Such a strategy should take into consideration a person's commitment level, which determines the basis for his or her motivation (commitment or progress based). We demonstrated the importance of employing the appropriate message in Study 4, in which participants were more likely to make a pledge if they received a message that corresponded to their motivation to contribute to the charity campaign. On the basis of these findings, we assume that the extent to which social agents choose messages that fit

people's level of goal commitment will affect the success of their persuasive appeal. In general, social agents can be more effective when they account for people's dynamic of self-regulation in pursuing social goals.

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Figure Captions

Figure 1. Motivation to study (Z-score) as a function of commitment (certain: core; uncertain: elective) and focus on to-date versus to-go information (Study 1)

Figure 2. The effect of to-date versus to-go information on perceived importance and motivation to study for an elective course (Study 1)
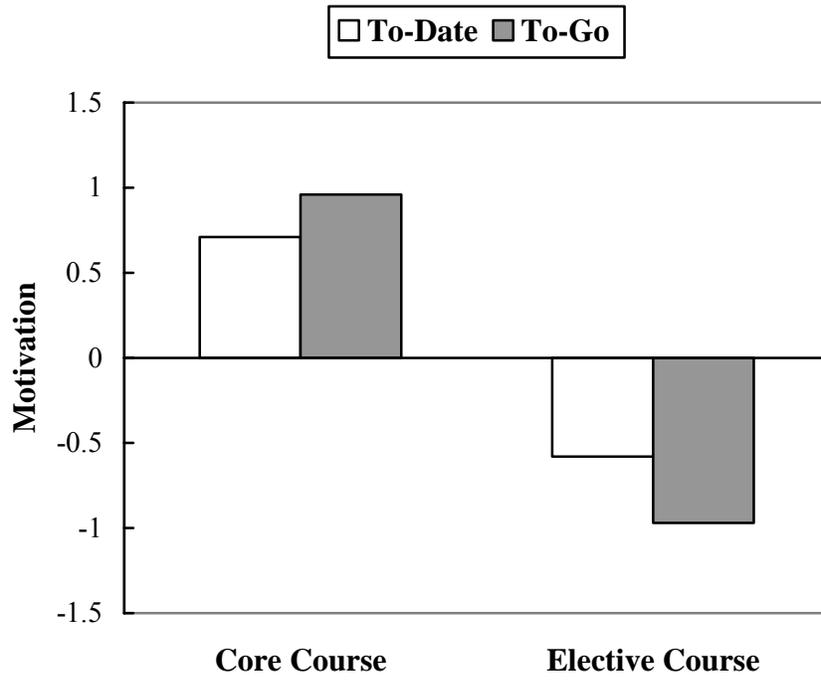
Figure 3. Motivation to join a reward program as a function of reward type (necessity vs. luxury) and focus on to-date versus to-go information (Study 2)
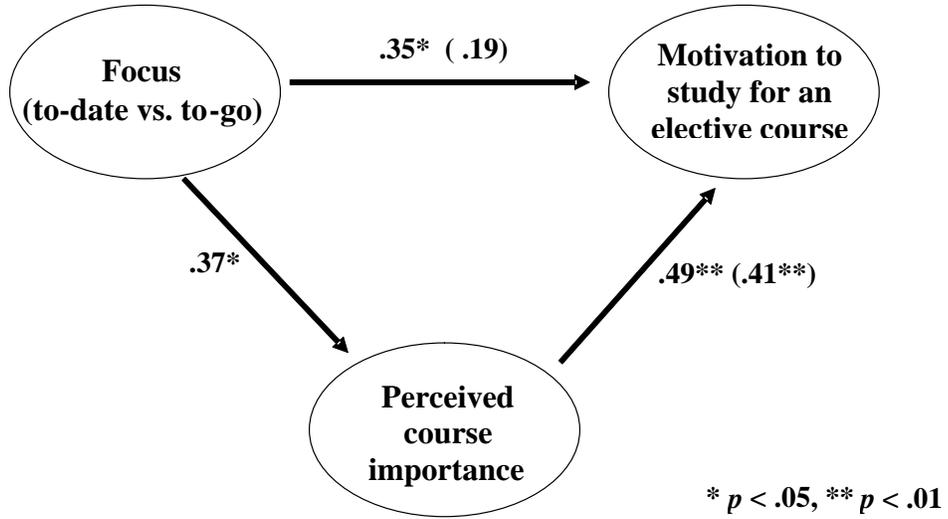
Figure 4. The effect of to-go versus to-date information on expected progress and motivation to work toward necessity rewards (Study 2)
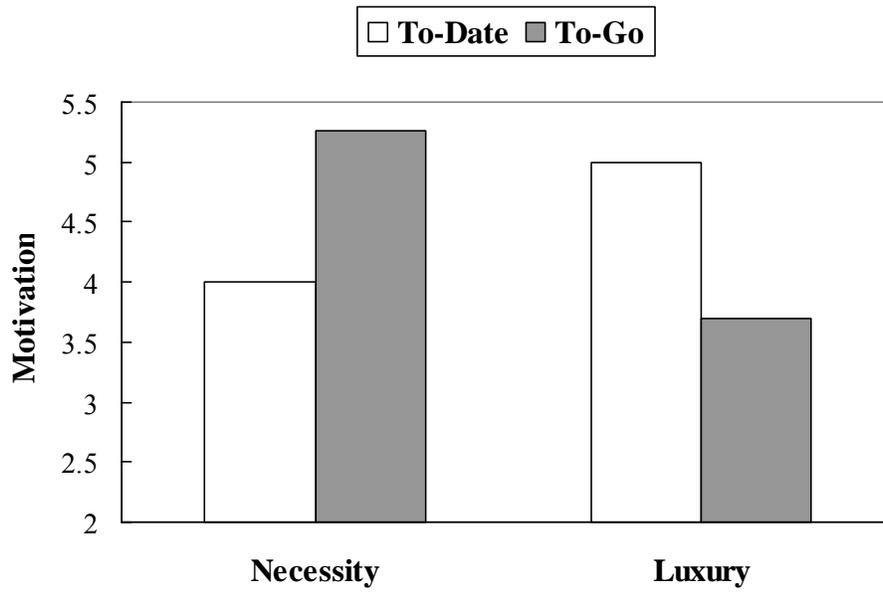
Figure 5. Motivation to purchase university merchandise (Z-score) as a function of framing (need vs. desire) and focus on to-date versus to-go information (Study 3)
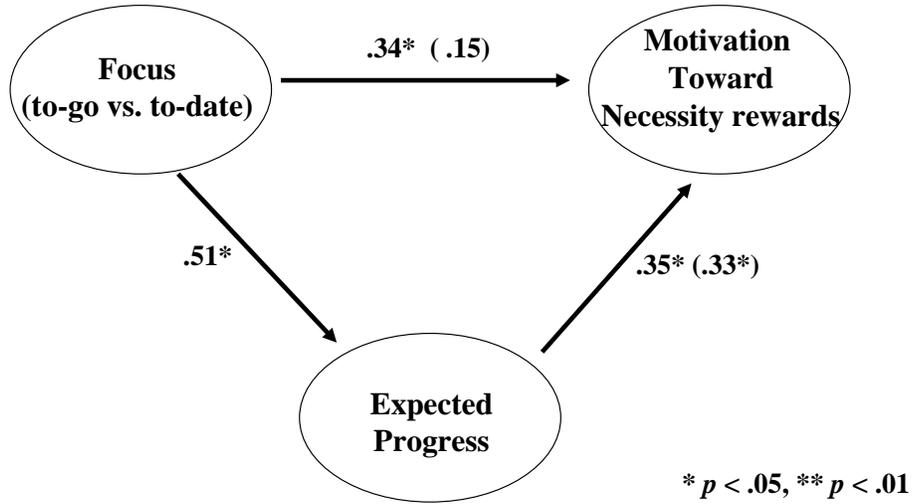
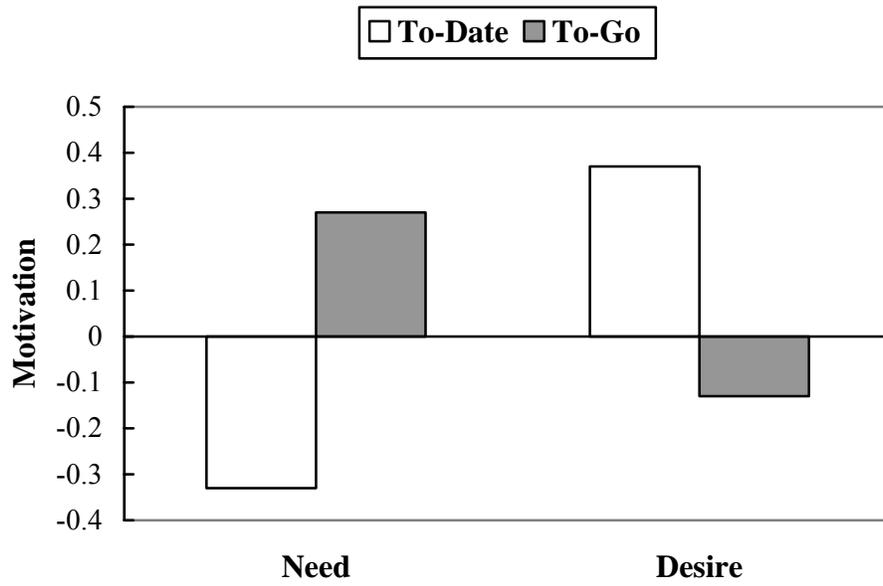*Figure 6*. Compassion solicitation letter figures (Study 4)

Figure 7. Charity contribution as a function of commitment certainty (cold list vs. hot list) and focus on to-date versus to-go information (Study 4)
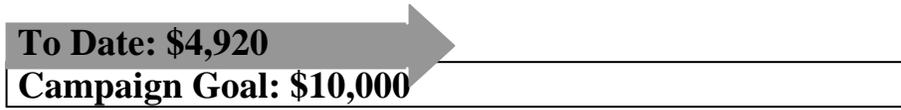
Focus
(to-date vs. to-go)

.35* (.19)

Motivation to
study for an
elective course

.37*

Perceived
course
importance

.49** (.41**)

*p < .05, **p < .01

Focus
(to-go vs. to-date)

.34* (.15)

Motivation
Toward
Necessity rewards

.51*

.35* (.33*)

Expected
Progress

*p < .05, **p < .01

(a) To-date condition

To Date: $4,920
Campaign Goal: $10,000

(b) To-go condition

To Go: $5,080
Campaign Goal: $10,000